

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
Revision of the Commission's Rules)
To Ensure Compatibility with)
Enhanced 911 Emergency)
Calling Systems)

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CC Docket No. 94-102
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

To: Chief, Wireless Telecommunications Bureau

QUARTERLY UPDATE TO REQUEST FOR WAIVER OF SECTION 20:18

Missouri RSA No. 7 Limited Partnership ("Mid-Missouri"), by its attorneys, hereby files a quarterly update to its request for rule waiver ("Waiver") of Section 20.18 of the Commission's Rules, pursuant to the FCC's Order released on November 13, 1998.¹ On December 4, 1998, Mid-Missouri filed for a waiver of Section 20.18 the Commission's rules regarding the transmission of 911 calls made from TTY devices using digital wireless systems. Mid-Missouri requested the Waiver until compliant equipment becomes commercially available. The Commission granted Mid-Missouri a temporary waiver of Section 20.18, which went into effect on January 1, 1999.² In order to maintain its Waiver, Mid-Missouri must file quarterly updates to show what advances have been made in the development of commercially available equipment. In support thereof, the following is respectfully shown:

¹In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, rel. Nov. 13, 1998 ("Order I").

²In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, rel. Dec. 31, 1998 ("Order II").

Order I sets forth specific questions that should be answered in support of waivers of Section 20.18. Mid-Missouri submits that these questions relate to the specifications of the equipment that is being developed to provide TTY-compatible service, and as such are beyond the scope of information which Mid-Missouri alone can provide. Therefore, such questions are more appropriately addressed by Mid-Missouri's equipment vendor because the equipment vendor, and not Mid-Missouri, is directly involved in developing compliant equipment. To form the basis of extending its Waiver, as evidenced by Exhibit A, Mid-Missouri requested that its equipment vendor provide responses to all information set forth in Order I, but its equipment vendor's response is not available for attachment with this submission. Mid-Missouri will forward its vendor's response as soon as possible. Below is a description of some of the technical issues raised by Mid-Missouri's equipment vendor that demonstrate why compliant equipment is not yet commercially available.

Mid-Missouri's infrastructure vendor is Nortel Networks ("Nortel"). Mid-Missouri corresponded with Nortel regarding the technical issues set forth in Order I. Nortel described the feasibility of providing text-messaging capability for those with hearing and speech disabilities, basing its information on the best technical information that Nortel had available and on the requirements of the FCC rule. With regard to analog calls placed through the Nortel equipment, to the best of Nortel's knowledge, the equipment is capable of transmitting 911 calls from people with speech or hearing disabilities through means other than the mobile handset, for example, through use of Text Telephone devices (TTYs). However, as noted below, most TTYs in use today have not been designed to connect with wireless handsets, and the 911 text message may be corrupted by the consumers' equipment. Further, Nortel believes that without extensive testing of text messages over analog systems, it is premature to assume all 911 calls will be received by the 911 call center

essentially error-free.

With regard to digital calls through Nortel equipment using the IS-95 CDMA air interface, the equipment, in the short term, is likely not capable of transmitting the 911 call with sufficient error free text to elicit proper 911 response. With regard to digital calls through Nortel equipment using the IS-136 TDMA air interface, the equipment, in the short term, may be capable of transmitting the 911 calls with sufficient error-free text to elicit proper 911 response, depending upon the type of vocoder used in the system, the type of text message equipment used, and the type of handset used.

Industry standards to support TTY operation in digital mode are not currently defined. Nortel is working with other equipment manufacturers and carriers to define the required design standards needed to develop this service. If TTY is to be part of the telephone path to send text messages for people with hearing or speech disabilities, then TTY manufacturers must work sincerely and cooperatively with wireless manufacturers to develop a workable standard. As technical TTY considerations must be considered for a workable standard, the wireless industry cannot develop a workable standard without technical assistance from TTY manufacturers. Nortel consequently cannot project when a design standard will be in place. In the interim, consumers may wish to test placing text calls over the digital path, or set their handsets to transmit only in analog mode for text message calls. If 911 call content is corrupted by TTY consumer devices used by speech or hearing disabled users, Nortel system equipment will not be able to correct those errors. Nortel is aware that the vast majority of TTYs are not designed to connect to wireless handsets, resulting in corruption of messages before they reach system networks. There are some TTY equipment models that have connections that facilitate proper connection between handsets and the TTY, but Nortel believes that

few are in use. Because Nortel does not currently manufacture wireless handsets, it is unable to resolve this connectivity problem. In addition, Nortel is not aware of any TTY that has been designed for its tones to be carried over digital vocoders designed for human speech. Therefore, the digital audio path is more prone to create text errors more frequently than text messages sent over analog audio paths.

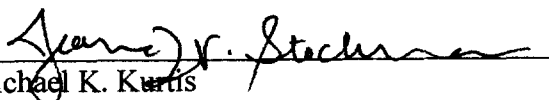
Complicating the task of providing text-messaging capability for those with hearing and speech disabilities is the lack of standards in the TTY industry. TTY has been the most utilized text message system for the hearing and speech disabled users covered by the FCC's 911 rule, but there does not appear to be a single solution that would work for all TTY devices in use. The wireless industry has been working with consumer representatives and TTY manufacturers in the TTY Forum for almost two years. Nortel is hopeful that information sharing from this group and comprehensive testing will identify practical solutions that manufacturers can incorporate into system solutions.

In accordance with the terms of Order I and as evidenced by Exhibit A, on a quarterly basis Mid-Missouri will request updated information from its equipment vendor regarding progress on development of compliant equipment and will submit additional quarterly updates to extend this waiver request as needed. Mid-Missouri reaffirms that as soon as compliant equipment is commercially available from its equipment vendor, Mid-Missouri intends to satisfy its obligations

under Section 20.18 of the Commission's rules.

Respectfully submitted,

MISSOURI RSA NO. 7 LIMITED PARTNERSHIP

A handwritten signature in dark ink, appearing to read "Jeanne W. Stockman", is written over a horizontal line.

Michael K. Kurtis
Jeanne W. Stockman
Its Attorneys

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Dated: March 31, 1999

EXHIBIT A

November 27, 1998

VIA FACSIMILE

Northern Telecom
Ed Breach
2221 Lakeside Blvd.
P.O. Box 833858
Richardson, TX 75083-3858



Re: Compliance with FCC Requirements to Provide 911 TTY Access Over Digital Networks

Dear Ed:

As you are aware, Mid-Missouri Cellular currently utilizes your Northern Telecom's analog and soon to be IS-136 infrastructure equipment to provide digital cellular service throughout its licensed service area.

Section 20.18 of the Federal Communication Commission's ("FCC" or "Commission") rules requires non-discriminatory access to state and local government services such as 911 for people with speech or hearing disabilities. Specifically, the Commission's rules require that all licensees provide TTY access to 911 services over cellular, PCS and certain SMR networks. Until now, the FCC has not enforced this requirement with respect to carriers operating in the digital format. We understand that this forbearance has been based upon the recognition by the FCC that none of the current digital protocols (TDMA, CDMA, iDEN or GSM) are capable of passing TTY data with an acceptable error rate.

The FCC has recently extended the period for which it will forebear from enforcing the requirements of Section 20.18 against digital carriers to **December 31, 1998**. Non-compliant licensees must seek a waiver of this deadline by **December 4, 1998**.¹

Notwithstanding the FCC's decision to allow further extensions of the forbearance period on a carrier-by-carrier basis, Mid-Missouri Cellular wishes to proceed with the deployment of the necessary system modifications to enable full compliance with the requirements of Section 20.18 as quickly as possible. We therefore ask that you provide us with a projected timetable of the availability of the requisite infrastructure equipment to enable the system that we presently have operating to be fully compliant. In addition, we ask that you provide us with a formal quote for that upgrade as soon as it has completed any requisite FCC type acceptance procedures and becomes commercially available. In addition, we ask that you provide us with the names of any alternate system suppliers which might provide this functionality on an ancillary basis, with equipment that is capable of interfacing with the infrastructure equipment which you have provided.

¹In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Order, rel. Nov. 13, 1998.

Until such time as you can provide us with the requisite infrastructure upgrades to enable us to fully comply with the requirements of Section 20.18, we must seek a formal waiver of that rules from the FCC. This waiver must be filed by December 4, 1998.

In support of that waiver, the FCC is requiring certain technical information to be included in the waiver in order for it to receive favorable consideration. However, most of the information sought by the FCC appears to pertain to equipment vendors' ability to supply digital wireless licensees with compliant equipment. Accordingly, in addition to the information requested above, we ask that you provide us with specific responses to the items presented below. Mid-Missouri Cellular intends to submit a copy of your response to the FCC in support of Mid-Missouri Cellular's request for waiver on December 4, 1998. Therefore, if any of the information which you provide in response to any item set forth below is confidential and therefore subject to the non-disclosure provisions of our Supply Agreement, we ask that you submit a formal answer to each item with such specificity which you would allow to be disclosed publicly to the FCC and provide a detailed response (stamped as confidential) as an attachment to your written response to this letter. Because of the FCC's December 4, 1998 deadline for carriers to seek waivers, we must ask that your written response to this letter be forwarded in sufficient time to ensure its receipt by Mid-Missouri Cellular by no later than December 3, 1998.

Questions:

1. Is the infrastructure equipment which you provided to Mid-Missouri Cellular and Mid-Missouri Cellular is presently operating, capable in its current form or with presently commercially available upgrades, of providing full support and access to TTY devices to ensure reliable access to 911 services by persons utilizing such TTY devices sufficient to enable Mid-Missouri Cellular to fully comply with the requirements of Section 20.18 of the FCC's rules? If so, please provide a formal quote and pricing information in accordance with the terms and conditions of our Equipment Supply Agreement. If not, please provide answers to the remaining questions.
- B. What steps is Northern Telecom taking or intending to take to provide carriers utilizing its infrastructure equipment with the ability to provide users of TTY devices with the capability to operate such devices in conjunction with digital wireless systems in compliance with Section 20.18 of the rules?
- C. When do you intend to make this capability available to your infrastructure users to enable them to provide full Section 20.18 compliant service to TTY users? This information should include well-documented timetables and milestones regarding the implementation of this capability.

- D. What reasonable steps are you taking to address the consumer concerns listed below? Where the requested capability is network independent, *i.e.*, your infrastructure equipment could provide that capability now to a common TTY device deployed within the past ten years, please so indicate. Where the system cannot provide that capability to a properly functioning common TTY device deployed within the past 10 years, please indicate whether the item requested is technologically feasible with modification to the infrastructure equipment and, if so, an approximate timeframe for implementation of that capability.

Consumer Concerns:

1. That the character error rate should approximate that of AMPS, which has been demonstrated at <1% for stationary calls.
2. That the TTY caller be able to visually monitor all aspects of call progress provided to voice users. Specifically, the ability to pass through sounds on the line to the TTY (so that the user can monitor ring, busy, answered-in-voice, etc.) should be provided.
3. That there be a visual indication when the call has been disconnected.
4. That volume control capability should be provided.
5. That the TTY user must have a means of tactile (vibrating) ring signal indication.
6. That the caller must be able to transmit TTY tones independent of the condition of the receiving modem. (This is to permit baudot signaling by pressing a key, to let a hearing person know that the incoming call is from a TTY).
7. That the *landline* party's TTY must not require retrofitting in order to achieve the desired error rate.
8. That the *wireless* party's TTY may require retrofitting, or a new model TTY to be developed, or the use of a portable data terminal such as a personal digital assistant.
9. That VCO and HCO should be supported where possible.
10. That reduction of throughput (partial rate) on Baudot is highly undesirable and should not be relied upon to achieve compliance (See #7). It may be useful as a user-selectable option to improve accuracy on a given call.

11. That call information such as ANI and ALI, where provided in wireless voice, should also be provided for TTY calls.
12. That the solution need not support seldom little-used or obsolete TTY models, but in general should support the embedded base of TTYs sold over the past ten years. The landline equipment supported must not be limited to that used in Public Service Answering Points (911 centers).
13. That drive conditions must be supported, again using AMPS as a benchmark.

It is Mid-Missouri Cellular's understanding that each and every consumer item addressed above is available today in an AMPS environment. If you have responded that any of the items identified above are not technically feasible with the digital protocol which Mid-Missouri Cellular has deployed with your infrastructure equipment, please provide sufficient technical detail to enable Mid-Missouri Cellular to properly explain that limitation to the FCC. Also, please identify whether that limitation is inherent to your company's infrastructure equipment or an inherent limitation in the digital protocol.

Assuming that the FCC grants the initial waiver of the December 31, 1998 deadline for a digital carrier to comply with the requirements of Section 20.18, the FCC has indicated that it will require licensees to provide updates every three (3) months on the items set forth above in order for waivers request to remain in effect. These updates are to state the progress that has been or is being made toward implementation of TTY/digital capability. Therefore, we ask that you provide us with updates with respect to each of the items discussed above as soon as such information becomes available, but no less frequently than quarterly by the last business day of February, May, August and November.

Should you have any questions with respect to this matter. Please do not hesitate to contact me. In light of the extremely short time frame which the FCC has allowed for Mid-Missouri Cellular to seek a waiver, your prompt attention to this matter would be sincerely appreciated.

Sincerely,



Kathie Zentgraf
General Manager